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ELR 5/5/2010

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FAX No.

571-273-4022

FROM

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DATE

April 30, 2010

**TOTAL NUMBER OF PAGES
INCLUDING THIS PAGE**

14

Comments:

Application No. 10/762,036

Our Docket No. EMS-274US

Per our discussion this morning.

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Proposed Claim Changes
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29. (Currently Amended) A method of processing data in a computer system comprising at least one host and at least one storage system, the method comprising:

receiving a request, from the host, to delete a unit of data stored on the storage system;

in response to the request, determining whether a previously-defined retention period for the unit of data has expired by:

retrieving first information, associated with the unit of data, that identifies second information specifying the previously-defined retention period for the unit of data, wherein the first information is separate from the second information and includes information identifying a retention class to which the unit of data belongs, wherein the second information is the previously-defined retention period for the retention class that defines a period of time during which units of data belonging to the retention class cannot be deleted from and/or modified on the at least one storage system, and wherein the at least one storage system stores a record associating a plurality of previously-defined retention periods with a plurality of retention classes; and

using the first information and the record stored on the at least one storage system to retrieve the second information specifying the previously-defined retention period for the unit of data;

receiving, at the at least one storage system, a second request requesting that the at least one storage system modify the retention period of the retention class; and

when it is determined that the retention period for the unit of data has not expired, denying the request to delete the unit of data.

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30. (Previously presented) The method of claim 29, further comprising:

deleting the unit of data when it is determined that the retention period for the unit of data has expired.

Claims 31 - 32 (Cancelled).

33. (Currently Amended) The method of claim 29, ~~further comprising: receiving, at the at least one storage system, a~~ wherein the second request is from the at least one host~~[[,]]-requesting that the at least one storage system modify the retention period of the retention class.~~

34. (Original) The method of claim 33, wherein the second request is a request to reduce the retention period of the retention class.

35. (Original) The method of claim 33, wherein the second request is a request to increase the retention period of the retention class.

36. (Previously presented) The method of claim 33, further comprising:

modifying the second information specifying the retention period in response to the second request.

37. (Previously presented) The method of claim 36, wherein the second information is modified without modifying the content of the unit of data.

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38. (Previously presented) The method of claim 33, wherein the second request includes an event command indicating the occurrence of an event.

39. (Previously presented) The method of claim 38, wherein the event command does not specify the manner in which the retention period of the retention class is to be reduced, and wherein receiving the second request includes determining the manner of reducing the retention period of the retention class by referring to information stored within or accessible to the storage system.

40. (Original) The method of claim 33, wherein the second request specifies the manner in which the length of the retention period of the retention class is to be reduced.

41. (Previously presented) The method of claim 34, wherein receiving the second request includes determining whether the retention period for the retention class is permitted to be reduced and reducing the retention period only when the retention period for the retention class is permitted to be reduced.

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42. (Previously presented) The method of claim 41, wherein determining whether the retention period for the retention class is permitted to be reduced includes determining whether the retention period of the retention class is designated as capable of being reduced.

43. (Previously presented) The method of claim 42, wherein determining whether the retention period for the retention class is permitted to be reduced includes determining whether the retention period of the retention class is designated as capable of being reduced by examining the retention period.

44. (Previously presented) The method of claim 42, wherein determining whether the retention period for the retention class is permitted to be reduced includes determining whether the retention period of the retention class is designated as capable of being reduced by examining a flag associated with the retention class.

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45. (Currently Amended) At least one computer readable medium encoded with instructions that, when executed on a computer system, perform a method of processing data, the computer system comprising at least one host and at least one storage system, the method comprising:

receiving a request, from the host, to delete a unit of data stored on the storage system;

in response to the request, determining whether a previously-defined retention period for the unit of data has expired by:

retrieving first information, associated with the unit of data, that identifies second information specifying the previously-defined retention period for the unit of data, wherein the first information is separate from the second information and includes information identifying a retention class to which the unit of data belongs, wherein the second information is the previously-defined retention period for the retention class that defines a period of time during which units of data belonging to the retention class cannot be deleted from and/or modified on the at least one storage system, and wherein the at least one storage system stores a record associating a plurality of previously-defined retention periods with a plurality of retention classes; and

using the first information and the record stored on the at least one storage system to retrieve the second information specifying the previously-defined retention period for the unit of data;

receiving, at the at least one storage system, a second request requesting that the at least one storage system modify the retention period of the retention class; and

when it is determined that the retention period for the unit of data has not expired, denying the request to delete the unit of data.

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46. (Previously presented) The at least one computer readable medium of claim 45, wherein the method further comprises:

deleting the unit of data when it is determined that the retention period for the unit of data has expired.

Claims 47 - 48 (Cancelled).

49. (Currently Amended) The at least one computer readable medium of claim 45, wherein the ~~method further comprises: receiving, at the at least one storage system, a second request is from the at least one host[[,]] requesting that the at least one storage system modify the retention period of the retention class.~~

50. (Original) The at least one computer readable medium of claim 49, wherein the second request is a request to reduce the retention period of the retention class.

51. (Original) The at least one computer readable medium of claim 49, wherein the second request is a request to increase the retention period of the retention class.

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52. (Previously presented) The at least one computer readable medium of claim 49, wherein the method further comprises:

modifying the second information specifying the retention period in response to the second request.

53. (Previously presented) The at least one computer readable medium of claim 52, wherein the second information is modified without modifying content of the unit of data.

54. (Previously presented) The at least one computer readable medium of claim 49, wherein the second request includes an event command indicating the occurrence of an event.

55. (Previously presented) The at least one computer readable medium of claim 54, wherein the event command does not specify the manner in which the retention period of the retention class is to be reduced and wherein receiving a second request includes determining the manner of reducing the retention period of the retention class by referring to information stored within or accessible to the storage system.

56. (Original) The at least one computer readable medium of claim 49, wherein the second request specifies the retention period to be reduced and the manner in which the length of the retention period of the retention class is to be reduced.

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57. (Previously presented) The at least one computer readable medium of claim 50, wherein receiving a second request includes determining whether the retention period for the retention class is permitted to be reduced and reducing the retention period only when the retention period for the retention class is permitted to be reduced.

58. (Previously presented) The at least one computer readable medium of claim 57, wherein determining whether the retention period for the retention class is permitted to be reduced includes determining whether the retention period of the retention class is designated as capable of being reduced.

59. (Previously presented) The at least one computer readable medium of claim 58, wherein determining whether the retention period for the retention class is permitted to be reduced includes determining whether the retention period of the retention class is designated as capable of being reduced by examining the retention period.

60. (Previously presented) The at least one computer readable medium of claim 58, wherein determining whether the retention period for the retention class is permitted to be reduced includes determining whether the retention period of the retention class is designated as capable of being reduced by examining a flag associated with the retention class.

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61. (Currently Amended) A storage system, comprising:

at least one storage device to store a unit of data; and

at least one controller that is adapted to:

receive a request to delete the unit of data; and

in response to the request, determine whether a retention period for the unit of data has expired by:

retrieving first information, associated with the unit of data, that identifies second information specifying the previously-defined retention period for the unit of data, wherein the first information is separate from the second information and includes information identifying a retention class to which the unit of data belongs, wherein the second information is the previously-defined retention period for the retention class that defines a period of time during which units of data belonging to the retention class cannot be deleted from and/or modified on the at least one storage system, and wherein the at least one storage device stores a record associating a plurality of previously-defined retention periods with a plurality of retention classes; and

using the first information and the record stored on the at least one storage device to retrieve the second information specifying the previously-defined retention period for the unit of data;

receive a second request requesting that the storage system modify the retention period of the retention class, and to modify the second information specifying the retention period in response to the second request; and

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when the at least one controller determines that the retention period for the unit of data has not expired, deny the request to delete the unit of data.

62. (Previously presented) The storage system of claim 61, wherein the at least one controller is adapted to delete the unit of data when it determines that the retention period for the unit of data has expired.

Claims 63 – 64 (Cancelled).

65. (Currently Amended) The storage system of claim 61, wherein the ~~at least one controller is adapted to receive a second request~~ is from the at least one host ~~requesting that the storage system modify the retention period of the retention class, and to modify the second information specifying the retention period in response to the second request.~~

66. (Original) The storage system of claim 65, wherein the second request comprises an event command indicating the occurrence of an event.

67. (Original) The storage system of claim 66, wherein the event command does not specify the manner in which the retention period of the retention class is to be reduced and wherein the at least one controller is adapted to determine the manner of reducing the retention period of the retention class by referring to information stored within or accessible to the storage system.

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68. (Original) The storage system of claim 65, wherein the second request includes third information that specifies the retention period to be reduced and the manner in which the length of the retention period of the retention class is to be reduced, and the at least one controller is adapted to reduce the length of the retention period based on the third information.

69. (Original) The storage system of claim 65, wherein the at least one controller is adapted to, in response to a second request that seeks to reduce the retention period:

determine whether the retention period for the retention class is permitted to be reduced;
and

reduce the retention period only when the retention period for the retention class is permitted to be reduced.

70. (Original) The storage system of claim 69, wherein the at least one controller is adapted to determine whether the retention period of the retention class is capable of being reduced by determining whether the retention period is designated as capable of being reduced.

71. (Original) The storage system of claim 70, wherein the at least one controller is adapted to determine whether the retention period of the retention class is designated as capable of being reduced by examining the retention period.

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72. (Original) The storage system of claim 70, wherein the at least one controller is adapted to determine whether the retention period of the retention class is designated as capable of being reduced by examining a flag associated with the retention class.

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73. (Previously presented) The storage system of claim 61, wherein the at least one controller comprises:

means for receiving the request, from a host, to delete the unit of data stored on the storage system;

means for determining whether the previously-defined retention period for the unit of data has expired by:

retrieving the first information, associated with the unit of data, that identifies the manner of accessing the second information specifying the previously-defined retention period; and

using the first information and the record stored on the at least one storage device to retrieve the second information specifying the previously-defined retention period; and

means for, when it is determined that the retention period for the unit of data has not expired, denying the request to delete the unit of data.

Claims 74 - 91 (Cancelled).